

What is claimed is:

1. A method for determining a beneficial or harmful treatment of living tissues with electromagnetic fields, comprising providing living tissue to be treated, providing means for applying electromagnetic fields to the tissue, subjecting said tissue to a varying  $dB/dt$ , and determining the effect on the tissue of a given  $dB/dt$ .
2. The method of claim 1, wherein  $dB/dt$  is varied by varying  $B$ , while keeping  $t$  constant.
3. The method of claim 2, wherein  $B$  is varied by controlling the amplitude, timing parameters, or both, of a current delivered to a coil for applying the electromagnetic fields to the tissue.
4. The method of claim 1, whereas  $dB/dt$  is varied by varying  $t$ , while keeping  $B$  constant.
5. The method in claim 1, whereas  $dB/dt$  is varied by varying both  $B$  and  $t$ .
6. A method for determining a beneficial or harmful treatment of living tissues with electromagnetic fields, comprising providing living tissue to be treated, providing means for applying electromagnetic fields to the tissue, subjecting said tissue to a varying  $B$ , and determining the effect on the tissue of a given  $B$ .
7. The method of claim 6, wherein  $B$  is controlled by controlling a current input to said means for applying electromagnetic fields to the tissue.
8. The method of claim 7, wherein the current is provided by the output of a current output amplifier.
9. Apparatus for treating living tissues with electromagnetic fields, which includes means for providing a signal, and means for inducing a  $B$  and/or a  $dB/dt$  specific for that tissue based on said signal and for applying the induced field to the tissue.
10. Apparatus of claim 9, wherein the specific  $dB/dt$  is determined by the method of claim 1.

11. Apparatus of claim 9, wherein the specific dB/dt is determined by the method of claim 6.

12. Apparatus of claim 9, wherein the means for providing said B and/or dB/dt includes a coil and an amplifier delivering current to said coil.

13. Apparatus of claim 12, wherein the amplifier is a current output amplifier.

14. Apparatus of claim 9, for promoting nerve regeneration, wherein the signal is a sawtooth.

15. Apparatus of claim 14, wherein the sawtooth has symmetrical rise and fall times.

16. Apparatus of claim 14, wherein the sawtooth has asymmetrical rise and fall times.

17. A method for promoting nerve regeneration, comprising providing a sawtooth B field, and applying said field to nerve tissue to be regenerated.

18. The method of claim 17, wherein the sawtooth B field has symmetrical rise and fall times.

19. The method of claim 17, wherein the sawtooth B field has asymmetrical rise and fall times.

20. The method of claim 17, further comprising controlling the B field by controlling a current used to induce the B field.

21. The method of claim 1, wherein dB/dt is controlled by controlling a current input to said means for applying electromagnetic fields to the tissue.

22. The method of claim 21, wherein the current is provided by the output of a current output amplifier.